APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,892	09/29/2003	Mohammad Hossein Zarrabizadeh	22	1989

22046   7590   05/12/2009
Docket Administrator - Room 2F-192
Alcatel-Lucent USA Inc.
600-700 Mountain Avenue
Murray Hill, NJ 07974

EXAMINER
LEE, JOHN W

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
05/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/673,892	ZARRABIZADEH, MOHAMMAD HOSSEIN
	Examiner	Art Unit
	JOHN Wahnkyo LEE	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *06 February 2009*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-58* is/are pending in the application.

    4a) Of the above claim(s) *38-52,55,56 and 58* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-37,53,54 and 57* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *29 September 2003* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *20050214 and 20050328*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Election/Restrictions

1.   No claim is generic to the following disclosed patentably distinct species:

    I.   Species corresponding to FIG. 1 and FIG. 6

    II.   Species corresponding to FIG. 2 and FIG. 6

    III.   Species corresponding to FIG. 9 and FIG. 6

    IV.   Species corresponding to FIG. 10 and FIG. 6

    V.   Species corresponding to FIG. 1 and FIG. 8

    VI.   Species corresponding to FIG. 2 and FIG. 8

    VII.   Species corresponding to FIG. 9 and FIG. 8

    VIII. Species corresponding to FIG. 10 and FIG. 8

The species are independent or distinct because the applicant discloses different embodiments for implementing the invention. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations

of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after

the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

Because these inventions are independent or distinct for the reasons given

above and there would be a serious burden on the examiner if restriction is not required

because the inventions require a different field of search (see MPEP § 808.02),

restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must

include (i) an election of a species or invention to be examined even though the

requirement be traversed (37 CFR 1.143) and (ii) identification of the claims

encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To

reserve a right to petition, the election must be made with traverse. If the reply does not

distinctly and specifically point out supposed errors in the restriction requirement, the

election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not

patentably distinct, applicant should submit evidence or identify such evidence now of

record showing the inventions or species to be obvious variants or clearly admit on the

record that this is the case. In either instance, if the examiner finds one of the inventions

unpatentable over the prior art, the evidence or admission may be used in a rejection

under 35 U.S.C.103(a) of the other invention.

2.   Applicant's election with traverse of Species I, which corresponds to claims 1-37,

53-54 and 57, in the reply filed on 15 January 2009 is acknowledged.

Information Disclosure Statement

3.   Initialed and dated copies of Applicant's IDS form 1449, Paper No. 20050214

and 20050328 are attached to the instant Office action.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

5.   The USPTO "Interim Guidelines for Examination of Patent Applications for Patent
        Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex
        IV, reads as follows (see also MPEP 2106):

> Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture
> or composition of matter and should be rejected under 35 U.S.C. Sec. 101. Certain types of descriptive
> material, such as music, literature, art, photographs and mere arrangements or compilations of facts or
> data, without any functional interrelationship is not a process, machine, manufacture or composition of
> matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional
> descriptive material may be claimed in combination with other functional descriptive multi-media
> material on a computer-readable medium to provide the necessary functional and structural
> interrelationship to satisfy the requirements of 35 U.S.C. Sec. 101. The presence of the claimed
> nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For
> example, a computer that recognizes a particular grouping of musical notes read from memory and
> upon recognizing that particular sequence, causes another defined series of notes to be played,
> defines a functional interrelationship among that data and the computing processes performed when
> utilizing that data, and as such is statutory because it implements a statutory process.

6.   Claim 54 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter as follows. Claim 54 recites a software which

does not impart functionality to a computer or computing device, and is thus considered

nonfunctional descriptive material. Such nonfunctional descriptive material, in the

absence of a functional interrelationship with a computer, does not constitute a statutory

process, machine, manufacture or composition of matter and is thus non-statutory per

se. Non-functional descriptive is non-statutory regardless of whether it is claimed as

residing on a computer readable medium.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-9, 11, 13-18, 20-32, 34-37, 53-54 and 57 are rejected under 35

U.S.C. 102(e) as being anticipated by Reed et al. (US 6,590,996 B1).

Regarding claim 1, Reed discloses a method of watermarking (col.3, line 57,

"watermark) a video signal (col. 4, lines 10-20, "host signal … video") including

additional information (col. 3, line 57, "information signal") therein, said video signal (col.

4, lines 10-20, "host signal … video") being characterized in that at least a portion of

said additional information (col. 15, lines 22, "two watermark component") has been

impressed (col. 15, lines 22, "insert") upon a chrominance portion (col. 15, line 31, "color

plane … chrominance plane") of said video signa (col. 4, lines 10-20, "host signal …

video") I by placing it in at least one selected bit position of a value (col. 15, line 34, "bit")

derived from an average of said chrominance portion (col. 15, line 31, "color plane …

chrominance plane") over a block (col. 2, lines 50-51, "average color of the block") of

said video signal (col. 4, lines 10-20, "host signal … video").

Regarding claim 2, Reed discloses wherein said portion of said additional

information being a bit (col. 15, line 34, "bit").

Regarding claim 3, Reed discloses wherein said additional information replacing

at least one bit of said value(col. 15, line 34, "bit") derived from said average of said

chrominance (col. 15, line 31, "color plane … chrominance plane") portion over said

block (col. 2, lines 50-51, "average color of the block").

Regarding claim 4, Reed discloses wherein said value derived from an average

of said chrominance portion over a block of said video signal being the average of the

values of said chrominance portion for each pixel of said block (Fig. 7; col. 14, lines 41-

49, "… pixel blocks").

Regarding claim 5, Reed wherein said additional information being not

substantially perceivable by the human visual system (col. 34, lines 1-2, "substantially

imperceptible to human visual perception") when said video signal including said

additional information is displayed on a display device (Fig. 20-1247; col. 33, line 20,

"monitor").

Regarding claim 6, Reed discloses wherein said additional information being

impressed by changing the value of said chrominance portion of various pixels of said

block, and wherein the magnitude of the change in value any pixel is a function of the

amount of change that can be introduced into said pixel without resulting (Fig. 14-958;

col. 23, lines 46-67, "… magnitude …") in an artifact that is substantially detectable by

the human visual system (col. 34, lines 1-2, "substantially imperceptible to human visual

perception").

Regarding claim 7, Reed discloses wherein said additional information being

impressed by changing the value of said chrominance portion of various pixels of said

block, and wherein the magnitude of the change in value any pixel does not exceed the amount of change (Fig. 14-958; col. 23, lines 46-67, "… magnitude …") that can be introduced into said pixel without resulting in an artifact that is substantially detectable by the human visual system (col. 34, lines 1-2, "substantially imperceptible to human visual perception").

Regarding claim 8, Reed discloses wherein the position of said selected bit (col. 15, line 34, "bit") being fixed for at least one block of at least one frame of (col. 2, lines 50-51, "average color of the block") said video signal (col. 4, lines 10-20, "host signal … video").

Regarding claim 9, Reed discloses wherein the position of said selected bit being dynamically determined (col. 15, line 34, "can range from a single bit") for at least one block of at least one frame of (col. 2, lines 50-51, "average color of the block") said video signal (col. 4, lines 10-20, "host signal … video").

Regarding claim 11, Reed discloses wherein said bit position into which said additional information is impressed is a bit of the integer portion of said value derived from said average (col. 23, lines 60-61, "the final results is an array of samples, each having one of five values: {-2,-1,0,1,2}).

Regarding claim 13, Reed discloses wherein said average of said chrominance portion over said block of said video signal is a DC coefficient of said block in a frequency domain representation of said block of said video signal (col. 38, lines 24-25, "DC component of the color for that block").

Regarding claim 14, Reed discloses wherein said additional information was placed in said at least one selected bit position in a manner that makes a minimum change to said average (col. 36, lines 65-67, "… minimized …").

Regarding claim 15, Reed discloses wherein said additional information being placed in said at least one selected bit position by adding a value to said average so as to make the value of said at least one bit position of said value derived from said average the same as said additional information to be impressed (col. 26, lines 10-17, "… add the detection value …").

Regarding claim 16, Reed discloses wherein said additional information being placed in said at least one selected bit position by adding a value to said average so as to make said at least one bit position the same in said value derived from said average as said additional information to be impressed while making only a minimum change to the value of said average when impressing said data (col. 26, lines 10-17, "… add the detection value …").

Regarding claim 17, Reed discloses wherein said additional information being placed in said at least one selected bit position by adding a value to said average so as to make said at least one bit position of said value derived from said average the same in value as said additional information to be impressed, said adding to said average having been achieved by adding an amount to the said chrominance portion of various pixels of said block, said additions to said pixel chrominance portions being made until a total of such additions equals the product of said value and the number of pixels in a

block, said additions being independent of any other changes made to the chrominance

portion of said pixels (col. 26, lines 10-17, "... add the detection value ...").

Regarding claim 18, Reed discloses wherein said video signal further comprising

a margin signal added thereto to reduce the likelihood that said additional information

will be eliminated should said video signal undergo quantization (col. 6, lines 61-67; col.

7, lines 1-19, "... quantization ...").

Regarding claim 20, Reed discloses wherein said additional information being

placed in said at least one selected bit position by adding only a minimum necessary

amount to said average so that in said value derived from said average said at least one

bit position is made to have the same value as said additional information to be

impressed and said value derived from said average is within a safe range (col. 26,

lines 10-17, "... add the detection value ...").

Regarding claim 21, Reed discloses wherein said additional information being

interleaved within said video signal with respect to its ordering prior to undergoing a

process to be impressed therein (col. 20, lines 1-13, "... preprocessing ...").

Regarding claim 22, Reed discloses wherein said additional information being

channel encoded within said video signal (col. 3, lines 57-60, "an information signal that

is embedded in a host signal ...").

Regarding claim 23, Reed discloses an apparatus for embedding additional

watermarking data within a video signal, comprising: a color selection unit for selecting

a chrominance portion (col. 15, line 31, "selected color plane ... chrominance plane") of

a block (col. 2, lines 50-51, "average color of the block") of said video signal (col. 4,

lines 10-20, "host signal … video") to carry a portion of said additional watermarking

data (col. 15, lines 22, "two watermark component"); and a data adder that adds

information (col. 3, line 57, "information signal") to pixels of said block (col. 2, lines 50-

51, "average color of the block") of said video signal (col. 4, lines 10-20, "host signal …

video") thereby causing a change in the average value (col. 17, line 60, "average of

samples") of said selected chrominance portion (col. 15, line 31, "selected color plane

… chrominance plane") so as to incorporate at least a portion of said additional

watermarking data (col. 15, lines 22, "two watermark component") within said changed

average value (col. 17, line 60, "average of samples").

Regarding claim 24, Reed discloses wherein said color selection unit comprises

a prestored table in computer readable form that indicates for each area within at least a

colorspace portion which chrominance portion should be selected for pixels within said

each area (col. 34, line 52, "lookup table").

Regarding claim 25, Reed dislcoses further comprising a block interleaver that

interleaves said additional watermarking data prior to said additional watermarking data

being incorporated within said changed average value (col. 20, lines 1-13, "…

preprocessing …").

Regarding claim 26, Reed discloses further comprising a channel encoder that

channel encodes said additional watermarking data prior to said additional atermarking

data being incorporated within said changed average value (col. 20, lines 1-13, "…

preprocessing …").

Regarding claim 27, Reed discloses wherein said data adder modifies only a said selected chrominance portion of said pixels and further comprising a multiplexer for multiplexing at least the unmodified chrominance portion of said pixels and said modified chrominance portion of said pixels (Fig. 2-224, "combine").

Regarding claim 28, Reed discloses wherein said data adder further comprises a bit mapper (col. 9 lines 13-25, "... map ...").

Regarding claim 29, Reed discloses wherein said data adder further comprises a texture masking unit that determines a amount of change in said chrominance portion that a pixel can endure while minimizing the likelihood of a visible artifact resulting, and wherein said data adder adds no more than said amount to said pixel (col. 11, lines 17-34, "... mask ...").

Regarding claim 30, Reed discloses wherein said data adder adds a further value to pixels of said block of said video signal thereby causing the resulting new average value to be within a safe range (col. 15, line 34, "can range from a single bit").

Regarding claim 31, Reed discloses wherein said data adder changes said average value by the least amount necessary to carry said additional watermark data (col. 15, lines 22, "two watermark component").

Regarding claim 32, Reed discloses wherein said data adder adds a further value to pixels of said block of said video signal thereby causing the resulting new average value to be within a safe range (col. 15, line 34, "can range from a single bit") and wherein said data adder further adds to pixels of said block the value that changes said average value by the least amount possible (col. 17, line 60, "average of samples").

Regarding claim 34, claim 34 is analogous and corresponds to claim 23. See rejection of claim 23 for further explanation.

Regarding claim 35, claim 35 is analogous and corresponds to claim 15. See rejection of claim 15 for further explanation.

Regarding claim 36, claim 36 is analogous and corresponds to claim 15. See rejection of claim 15 for further explanation.

Regarding claim 37, claim 37 is analogous and corresponds to claim 17. See rejection of claim 17 for further explanation.

Regarding claim 53, claim 53 is analogous and corresponds to claim 23. See rejection of claim 23 for further explanation.

Regarding claim 54, claim 54 is analogous and corresponds to claim 23. See rejection of claim 23 for further explanation.

Regarding claim 57, Reed discloses an apparatus for embedding watermarking data within a video signal, comprising: means for receiving a video signal (col. 4, lines 10-20, "host signal … video") in a frequency domain based format (col.9 lines 37-52, "frequency domain"); and means for changing a DC coefficient of at least one block (col. 38, line 25, "DC component of the color for that block") of said video signal(col. 4, lines 10-20, "host signal … video") to carry at least a portion of said watermarking data (col. 15, lines 22, "two watermark component").

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US 6,590,996 B1) in view of Baudry et al. (US 2004/0001626 A1).

Regarding claim 10, Reed discloses all the claim limitations except the one specified in claim 10. However, Baudry discloses wherein the position of said selected bit is determined based on a texture variance of said block (paragraph [0083], "texture").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Baudry's invention in Reed's invention to reduce to correct the distortions as suggested by Baudry (paragraph [0003]).

11.   Claim 12, 19 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US 6,590,996 B1) in view of Doerr et al. ("A guide tour of video watermarking").

Regarding claim 12, Reed discloses all the previous claim limitations except the one specified in claim 12. However, Doerr discloses wherein said block of said video signal is in a reduced resolution format such that for each 2.times.2 luminance block of an original version of said video signal, had said original version of said video signal been in 4-4-4 representation, there remains only one Y, one U, and one V value (section 3.1; page 271, "4:4:4").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Doerr's method in Reed's invention to provide great help for digital video watermarking as suggested by Doerr (conclusion).

Regarding claim 19, Doerr further discloses wherein said video signal further comprising a margin signal added thereto to reduce the likelihood that said additional information will be eliminated should said video signal undergo motion picture experts group (MPEG)-type encoding (section 3.1; page 271, "mpeg").

Regarding claim 33, claim 33 is analogous and corresponds to claim 12. See rejection of claim 12 for further explanation.

Conclusion

12.   No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN Wahnkyo LEE whose telephone number is (571)272-9554. The examiner can normally be reached on Monday - Friday (Alt.) 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Wahnkyo Lee/
Examiner, Art Unit 2624

/Samir A. Ahmed/
Supervisory Patent Examiner, Art Unit 2624